



DEPARTMENT OF TRANSPORTATION

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Federal Highway Administration

[Docket No. FHWA-2013-0030]

Agency Information Collection Activities: Request for Comments for a New Information Collection

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice and request for comments.

SUMMARY: FHWA invites public comments about our intention to request the Office of Management and Budget's (OMB) approval for a new information collection, which is summarized below under **Supplementary Information**. We published a Federal Register Notice with a 60-day public comment period on this information collection on February 15, 2013. We are required to publish this notice in the Federal Register by the Paperwork Reduction Act of 1995.

DATES: Please submit comments by [insert date 30 days from published date].

ADDRESSES: You may send comments within 30 days to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention DOT Desk Officer. You are asked to comment on any aspect of this information collection, including: (1) whether the proposed collection is necessary for the FHWA's performance; (2) the accuracy of the estimated burden; (3) ways for the FHWA to enhance the quality, usefulness, and clarity of the collected information; and (4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. All comments should include the Docket number FHWA-2013-0030.

FOR FURTHER INFORMATION CONTACT: Shane D. Boone, 202-493-

3064, Nondestructive Evaluation Research Program, Federal Highway Administration,

Department of Transportation, 6300 Georgetown Pike, McLean, VA 22101. Office hours are from 8 a.m. to 5 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Title: Non-Destructive Inspection Protocol for Reinforced Concrete Highway Barriers and Bridge Railings.

Background: Highway barriers and bridge railings serve to prevent errant vehicles from departing the travelway at grade separations. Most bridge railings are made of reinforced concrete. Despite the important role

that they play in maintaining safety and their ubiquitous nature, barrier inspection rarely moves beyond visual inspection. In August of 2008, tractor-trailer dislodged a section of barrier on the William Preston Lane, Jr. Memorial Bridge. Portions of the displaced barrier separated and the tractor-trailer fatally departed the bridge. Investigations following the accident identified significant corrosion of the anchor bolts attaching the bridge railing to the bridge deck.

As a result of the information gathered during its investigation of the accident, the National Transportation Safety Board (NTSB) made recommendations to the Federal Highway Administration concerning Non-Destructive Evaluation of concrete bridge railings. One of these recommendations (H-10-18) is as follows:

Expand the research and development of nondestructive evaluation technologies to develop bridge inspection methods that augment visual inspections; offer reliable measurement techniques; and are practical, both in terms of time and cost, for field inspection work; and promote the use of these technologies by bridge owners.

The barrier on the Preston Lane, Jr. Memorial Bridge was unique in that the anchor bolts connecting the barrier to the deck were exposed. This exposure allowed inspection of the remaining anchor bolts directly using ultrasonic testing. In contrast, most barriers have configurations where the steel anchorage is completely embedded in the deck and barrier.

Most reinforced concrete barriers are anchored to the deck of a bridge or retaining wall using reinforcing steel protruding from the main structure or by anchored bars or bolts during retrofits. Corrosion of steel bars or bolts can weaken this attachment and reduce the capacity of the barrier. The most direct damage resulting from corrosion is the reduction of steel diameter and cross-sectional area. Steel corrosion in concrete is caused primarily by two reasons: chloride induced corrosion and carbonation induced corrosion. Barriers are generally located at or very near the gutter-line of a roadway and may have significant long-term exposure to corrosive deicing materials.

It is beyond the capacity of visual inspection to identify and evaluate concrete voids and corrosion of anchorage mechanisms embedded in concrete. A literature review revealed that some promising research has been done using NDE methods to evaluate reinforced concrete and the embedded steel reinforcement.

Effective corrosion detection methods are just one piece of the barrier and railing maintenance puzzle.

Identification of when to use advanced NDE tools as well as to what level the capacity is likely impacted by the

measured deterioration will be examined as a part of this project. In order to most effectively investigate the correct barrier and railing designs, it was noted that input from the state DOTs was required. Thus, a survey to determine what protocols for design, fabrication, installation, and inspection was created and should be disseminated to the 50 state DOTs and also to the D.C. and Puerto Rico DOTs.

Respondents: All 50 state DOTs and also D.C. and Puerto Rico DOTs. 52 total.

Frequency: Once.

Estimated Average Burden per Response: Approximately 2 hours to collect the necessary information and 1 hour to fill out the survey.

Estimated Total Annual Burden Hours: Approximately 156 hours.

Public Comments Invited: You are asked to comment on any aspect of this information collection, including: (1) Whether the proposed collection is necessary for the FHWA's performance; (2) the accuracy of the estimated burdens; (3) ways for the FHWA to enhance the quality, usefulness, and clarity of the collected information; and (4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. The agency will summarize and/or include your comments in the request for OMB's clearance of this information collection.

Authority: The Paperwork Reduction Act of 1995; 44 U.S.C. Chapter 35, as amended; and 49CFR 1.48.

Issued On: June 17, 2013

Michael Howell
Information Collection Officer